

**REMARKS**

Claims 1 – 12 are pending and under consideration in the above-identified application.

In the Office Action, Claims 1 – 12 were rejected.

In this Amendment, Claims 1 and 6 are amended. No new matter has been added as a result of this Amendment.

Accordingly, Claims 1 – 12 remain at issue.

**I. 35 U.S.C. § 103 Obviousness Rejection of Claims 1-2 and 4-5**

Claims 1-2 and 4-5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Chan (U.S. Patent No. 6,527,457) in view of Jokerst (U.S. Patent No. 6,721,503). Although Applicant respectfully traverses this rejection, Claim 1 has been amended to clarify the invention and remove any ambiguities that may have been at the basis of this rejection.

Claim is directed to an optical transceiver. The optical transceiver includes a light emitting element for converting an electric signal into an optical signal, a light receiving element for converting an optical signal into an electric signal for carrying out a single-wire two-way communication by using an optical fiber, an optical integrated chip in which the light emitting element and the light receiving element are formed on the same chip, and a light emitting section of the light emitting element and a light receiving section of the light receiving element are closely placed, and a circuit board where a via hole for inserting the optical fiber is formed. The optical integrated chip is mounted on one surface of the circuit board at a position where the light emitting section and the light receiving section are fitted into the via hole, the optical fiber is inserted into the via hole to fix from the other surface of the circuit board, and the light emitting section and the light receiving section are placed at a distance at which a part of each section is fitted in a diameter portion of a core *transversal cross-section* of the optical fiber.

That is, the light emitting section and the light receiving section are placed at a distance at which a part of each section is fitted in a diameter portion of a core cross-section of the optical fiber.

Referring to Applicants' Figures 1 – 4 as illustrative examples, Applicant's claimed invention comprises an optical transceiver which includes a light emitting element for converting

an electric signal into an optical signal, a light receiving element for converting an optical signal into an electric signal for carrying out a single-wire two-way communication by using an optical fiber, and a light emitting section 6 of the light emitting element and a light receiving section 7 of the light receiving element are closely placed, and a circuit board where a via hole for inserting the optical fiber is formed. The optical integrated chip 2 is mounted on one surface of the circuit board at a position where the light emitting section 6 and the light receiving section 7 are fitted into the via hole, the optical fiber 4 is inserted into the via hole to fix from the other surface of the circuit board, and the light emitting section 6 and the light receiving section 7 are placed at a distance at which a part of each section is fitted in a diameter portion of a core *transversal cross-section* of the optical fiber 4.

In contrast, as the Examiner acknowledged Chan fails to teach that the light emitting section and the light receiving section are placed at a distance at which a part of each section is fitted in a diameter portion of a core transversal cross-section of the optical fiber. For that alleged teaching, the Examiner cites Jokerst.

In fact, Jokerst states that (emphasis added):

“With reference to FIG. 1, shown is a bi-directional optical link 100 according to an embodiment of the present invention. The bi-directional optical link 100 includes a stacked arrangement of a thin film detector 103 and thin film emitter 106. The detector 103 is located on a host substrate 109 as shown. The detector 103 is preferably flat in shape with a relatively small thickness. The detector 103 includes an upper surface 113 oriented to receive incident light 116 from a predetermined direction 123, that is, for example, normal to the upper surface 113. The incident light 116 propagates, for example, from an optical fiber 119 as shown where the optical fiber 119 has a core 126 and a cladding 129. *The emitter 106 is stacked over the detector 103.* Both the detector 103 and the emitter 106 include electrical contacts from which these devices are driven. Both the detector 103 and the emitter 106 are independently optimized and bonded, for example, to a transceiver circuit (not shown) located on the host substrate 109.”

(See Column 2, lines 48 - 65 and FIGs. 1, 3 and 4A). As such, Jokerst fails to teach or suggest the light emitting section and the light receiving section are placed at a distance at which a part of each section is fitted in a diameter portion of a core transversal cross-section of the optical fiber.

Thus, Claim 1 is patentable over Chan and Jokerst, taken singly or in combination with each other, as are dependent Claims 1 – 2 and 4 – 5 for at least the same reasons.

Accordingly, Applicant respectfully requests that these claim rejections be withdrawn.

**II. 35 U.S.C. § 103 Obviousness Rejection of Claims 3**

Claim 3 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Chan in view of Jokerst and further in view of Nishii (U.S. Publication No. 2002-0157862). Applicant respectfully traverses this rejection.

Claim 3 is dependent on Claim 1, which was shown above to be patentable over Chan in view of Jokerst. Moreover, like Chan and Jokerst Nishii also fails to teach or suggest the light emitting section and the light receiving section are placed at a distance at which a part of each section is fitted in a diameter portion of a core transversal cross-section of the optical fiber.

As such, Claim 1 is patentable over Chan Jokerst and Nishii, as is dependent Claim 3 for at least the same reasons.

Accordingly, Applicant respectfully requests that these claim rejections be withdrawn.

**III. 35 U.S.C. § 103 Obviousness Rejection of Claims 6-9 and 11-12**

Claims 6-9 and 11-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Chan in view of Jokerst and further in view of Forrest (U.S. Patent No. 4,493,113). Applicant respectfully traverses this rejection.

In dependent Claim 6 has been amended to recite the same distinguishable limitation as that of Claim 1. Thus, Claim 6 is patentable over Chan in view of Jokerst. Moreover, like Chan and Jokerst Forrest also fails to teach or suggest the light emitting section and the light receiving section are placed at a distance at which a part of each section is fitted in a diameter portion of a core transversal cross-section of the optical fiber.

As such, Claim 6 is patentable over Chan Jokerst and Forrest, as are dependent Claims 7 - 9 and 11 – 12 for at least the same reasons.

Accordingly, Applicant respectfully requests that these claim rejections be withdrawn.

**IV. 35 U.S.C. § 103 Obviousness Rejection of Claims 10**

Claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Chan in view of Jokerst and Forrest, as applied to claim 6 above, and further in view of Nishii. Applicant respectfully traverses this rejection.

Claim 10 is dependent on Claim 6, which was shown above to be patentable over Chan in view of Jokerst. Moreover, like Chan and Jokerst Nishii also fails to teach or suggest the light emitting section and the light receiving section are placed at a distance at which a part of each section is fitted in a diameter portion of a core transversal cross-section of the optical fiber.

As such, Claim 6 is patentable over Chan Jokerst and Nishii, as is dependent Claim 10 for at least the same reasons.

Accordingly, Applicant respectfully requests that these claim rejections be withdrawn.

**V. Conclusion**

In view of the above amendments and remarks, Applicant submits that Claims 1 – 12 are clearly allowable over the cited prior art, and respectfully requests early and favorable notification to that effect.

Respectfully submitted,

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